



Department of Energy

Washington, DC 20585

September 28, 2011

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DNF SAFETY BOARD

The Honorable Peter S. Winokur
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, NW, Suite 700
Washington, DC 20004-2901

Dear Mr. Chairman:

In your letter dated, March 30, 2011, the Defense Nuclear Facilities Safety Board (Board) informed the Department of Energy (DOE) of the results of a November 2010 staff review at the Hanford Tank Farms that focused on Conduct of Operations (COO). The correspondence included a staff issue report and requested an update within 180 days on progress to continually enhance COO. DOE and our prime contractor, Washington River Protection Solutions, LLC (WRPS), agree with the conclusion that there has been improvement in some areas of COO, but continued focus towards ongoing improvement actions is necessary to safely and efficiently support the planned increase in operational tempo. Consistent with the need for ongoing improvement, WRPS has taken a number of actions that are discussed in greater detail in the enclosed summary.

In addition, DOE Office of River Protection (ORP) oversight has focused on the effectiveness of lockout/tagout improvement and work control actions/implementation. ORP oversight has identified that WRPS has made significant progress in defining an adequate work control process; however, inconsistencies continue in work package development, field implementation, and recognition/self-correction of errors.

The enclosure contains details on the status of the observations and comments provided in your staff issue report. WRPS is currently completing a targeted assessment of lockout/tagout implementation and plans to complete an end point assessment of work planning and control at the end of Fiscal Year (FY) 2011. WRPS is also planning to implement the URS corporate work control standard that has been selected as a reference point by the Energy Facility Contractors Group (EFCOG) work planning team. Both WRPS and ORP continue to pursue learning opportunities (e.g., EFCOG, Separations Process Research Unit Lessons Learned) for improvement of areas, such as COO and work planning and control. DOE agrees with the need for consistent formality of operations and is scheduling comprehensive oversight by ORP, with expected participation by Environmental Management's Office of Safety Operations Assurance, of WRPS implementation of COO in the second quarter of FY 2012.



If you have any further questions, please contact me or James A. Hutton, Acting Deputy Assistant Secretary for Safety and Security, at (202) 586-5151.

Sincerely,

A handwritten signature in black ink, appearing to read "David Huizenga". The signature is fluid and cursive, with a large initial "D" and "H".

David Huizenga
Acting Assistant Secretary for
Environmental Management

Enclosure

cc: R. Lagdon, S-5
M. Campagnone, HS-1.1
T. Mustin, EM-2
J. Hutton, EM-20 (Acting)
K. Picha, EM-21 (Acting)

Washington River Protection Solutions, LLC Improvements in Conduct of Operations

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Overview

Washington River Protection Solutions, LLC (WRPS) is implementing a continuous improvement approach to achieve its and the Department of Energy's (DOE) expectations for rigorous Conduct of Operations (COO). WRPS has deployed COO Coaches to actively mentor field personnel and to advise/assist management to ensure that WRPS and subcontractor work group supervisors and responsible managers, among others, have a solid understanding of disciplined COO, Integrated Safety Management System (ISMS), Radiological Controls, and the work control program. Additionally, actions were taken to improve training and pre-job/post-job briefings to apply these programs to the daily activities to ensure safe, consistent, and effective operations.

WRPS management and workers have collaborated in work process improvement forums (e.g., Employee Zero Accident Committee, COO council, and worker affiliation meetings), and the company has made significant organizational changes to help instill a greater sense of employee ownership and accountability for the work processes and adherence to procedures, and to improve access to program subject matter experts. Finally, WRPS believes that good COO performance is a journey involving continuous improvements and continues to make progress. As part of this journey, WRPS has evaluated the Defense Nuclear Facility Safety Board's (Board) concerns as expressed in the March 30, 2011, letter to the DOE Assistant Secretary for Environmental Management. Below is a summary of the progress in each of the areas identified by the Board.

Work Instructions/Technical Procedures

WRPS completed a targeted assessment to determine the effectiveness of the corrective actions for a significant problem evaluation report, SIG PER WRPS-PER-2009-1954, which directly relates to this issue. The results of this targeted assessment were presented to the Executive Safety Review Board (ESRB), which is comprised of WRPS senior management. The ESRB concluded that all the corrective actions identified in the WRPS-PER-2009-1954 and WRPS-PER-2010-1130 Corrective Action Plan (CAP) addendum have been completed and personnel are demonstrating familiarity with requirements and standards. However, continued emphasis is needed to ensure consistent implementation of requirements and standards. Issuance of the revised work planning template, based on the URS corporate standard, is expected to resolve many of the issues noted in the work instructions reviewed. There is still some indication of errors in technical procedures based on a sampling of documents and interviews conducted in the targeted assessment and that the technical procedure process currently lacks rigor in ensuring update of documents prior to use to ensure compliance to current standards. WRPS has identified areas for further improvement as part of this assessment as follows:

1. Complete revision of the work planning template and implement for use;
2. Review technical procedures to identify and resolve errors; and

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3. Determine appropriate size of the procedure set assigned to each owner to ensure rigor in management of technical procedures.

WRPS has completed a revision of the work planning template and plans to complete the overall end point assessment by September 30, 2011, which will address the lack of specificity and clarity in work instructions as noted by the Board staff. WRPS and the DOE Office of River Protection (ORP) are working collaboratively on performance metrics and assessment criteria designed to evaluate the current implementation status of this topical area.

Control of Work by the Field Work Supervisors

WRPS agrees that the effectiveness of its front-line management is extremely important to continuous improvement of operations rigor. All WRPS managers, including field work supervisors (FWS), are undergoing continuous training on management and leadership skills. A new phase of the training, Supervisor II, is being conducted in fiscal year (FY) 2011. Additionally, constant feedback is given to FWS by both management and COO coaches on ways to improve performance.

In order to reduce the burden on the FWS, significant effort has been made to qualify additional Operations Engineers (OE) as FWS. The addition of qualified personnel will distribute the work load and provide additional FWS to support field activities.

Methods of tracking work document progress, e.g., place-keeping, are used on a graded approach at the Hanford Tank Farms and is commonly practiced on high hazard jobs.

Pre-job Briefings and Post-Job Reviews

A major revision to TFC-OPS-MAINT-C-02, *Pre-job Briefings and Post-job Reviews*, dated December 30, 2010, addresses several issues identified by the Board staff, and clarifies the pre-job and post job briefing processes. The intent of this revision was to reduce procedure complexity, clearly describe the detailed levels of pre-job briefings/post job reviews, clarify expected documentation for these briefings, and complete associated modifications to the pre-job briefing form.

This revision was reviewed by a large cross section of supervisory representatives from WRPS organizations, COO coaches, and the WRPS COO Council. Once this revision was approved, procedure changes were communicated to the affected supervisory personnel through a documented required reading program, and through company-wide communications. In addition, TFC-OPS-MAINT-C-02, *Pre-job Briefings and Post-job Reviews*, was one of the primary focus topics for the quarterly continuing training cycle for supervisors, operations, and maintenance personnel that were completed in March 2011. In addition to reviewing the procedural requirements, this training emphasized expectations and responsibilities for supervisors and craft personnel in conducting and participating in the briefing process.

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Recent reviews and observations of the pre-job process by WRPS COO coaches have noted a significant improvement in understanding and compliance with the requirements of TFC-OPS-MAINT-C-02.

Conduct of Operations Coaches

The roles and responsibilities of COO coaches were originally discussed with work team management and field personnel, but not incorporated in procedures to allow time for the coaches to interact with workers and refine the optimal approach for mentoring.

The WRPS Contractor Assurance Systems (CAS) Work Group identified the documentation of organizational Roles, Responsibilities, Authorities, and Accountabilities (R2A2) including those of the COO coaches as an opportunity for improvement in the March 8, 2011, meeting. Actions were assigned to identify the appropriate WRPS documentation such as TFC-CHARTER-01, *Tank Farm Operations Contractor Charter*, and TFC-ESHQ-AP-C-03, *Management Observation Program*, in which to document the R2A2 of COO coaches. The recommendations from the CAS Work Group are captured as corrective actions and will be tracked to closure.

Observations from the four temporary COO coaches were continuously provided to the “permanent” coaches during their 2-month assignment. Feedback from all of the coaches is captured in periodic reports (weekly and monthly) to WRPS senior and field management, field workers, the COO Council, and DOE-ORP. The reports are screened for specific non-compliances to requirements or trends for entry into the corrective action management system. The information is summarized into a company level Performance Indicator (PI) that is reviewed monthly by the Executive Safety Review Board (ESRB). Items identified as needing actions are assigned within the Problem Evaluation Request system or through the COO Council’s action matrix.

Conduct of Operations Council

As the Board noted, an effort has been made to increase and attract wider bargaining unit participation with limited results. This has and continues to be a priority to WRPS to increase and broaden bargaining unit participation. This was a topic of discussion in the COO Council meetings and inserted into the COO Action Matrix; as a result, each COO Council member will identify and bring one bargaining unit member to the Council with the intention of the individual becoming a full member. This action will be tracked at each monthly meeting until completion.

Separately, the Council did reschedule the meeting times to better align times that would allow more bargaining unit participation along with reviewing and modifying the Council membership to current organizational structures. Overall, attendance of personnel at recent meetings has shown improvement, but WRPS is not satisfied that the alignment goals have been reached. WRPS is looking to integrate the bargaining unit engagement through focused working groups assigned to evaluate specific challenges and report

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results back to the Council. This effort is in its infancy, but it is intended to better leverage the bargaining unit focus on pressing field challenges versus the broader, programmatic elements that are also addressed by the Council.

Recent COO Council discussions also include the pursuit of foundational training to reinforce good practices in three-way communications, independent verification, valve lineup practices, and other attention-to-detail behaviors.

Housekeeping

Poor housekeeping practices were identified as an existing issue at the Tank Farms when WRPS began the Tank Operations Contractor (TOC) contract. Since then, progress has been made as noted in the Board's letter; however, the existing inventories of reusable contaminated equipment, non-regulated waste, and related housekeeping concerns will take time to resolve.

During the summer of 2010, WRPS reorganized Base Operations into geographical area work teams. One of the objectives of this organizational structure was to instill greater employee ownership of assigned Tank Farms and management accountability for housekeeping and general facility upkeep. Improvements have been observed with several of the teams. For example, each Work Area Team has specific performance goals established for FY 2011 to improve housekeeping, including reduction of radiological control area footprint, disposition of reusable contaminated equipment, and improvements in permanent equipment labeling.

Greater emphasis is being placed in work control documents for the demobilization and cleanup of work sites following completion of work evolutions and more emphasis on reducing materials that may remain in the Tank Farms over an extended period of time.

Finally, WRPS has established a compliance team to provide a means to immediately correct minor compliance deficiencies. The team also corrects minor housekeeping issues such as tumbleweed accumulation, clean-up and down posting of small contamination areas caused by biological or environmental issues. Team progress is being tracked using before/after pictures and marketed to ensure other WRPS teams realize that resources are available to address these types of issues. WRPS is collecting the data periodically and demonstrating progress on a number of longstanding radiological and housekeeping issues.

Maintenance and Inspection

An initial review of the process was performed by the owner of procedure TFC-OPS-OPER-C-10, *Vehicle and Dome Load Control in Tank Farms Facilities*, dated March 28, 2010, which was the current version at the time of the Board's staff visits. The review addressed Section 4.2, *Vehicle Inspection*. Reviews of safety requirements documents and interviews of safety personnel revealed that the procedure included steps that

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implemented both currently applicable requirements (e.g., fuel system physical protection) as well as former requirements (e.g., annual vehicle inspection).

Procedure users were also interviewed and recommended that section 4.2 be clarified for ease of use. A revised procedure that incorporated these changes was issued on February 11, 2011.

Key changes included:

1. Eliminating the steps associated with annual inspections;
2. Developing an improved vehicle inspection sticker (content and format); and
3. Switching to the electronic document management system instead of the maintenance database to retain inspection records.

Process changes were communicated through the Daily Report as well as work team pre-shift and pre-job briefings.

Concurrent with implementation of the process changes and at the direction of Tank Farms area managers, personnel performed verifications that all vehicles that were staged in Tank Farms at the time were properly labeled. No problems were identified during those inspections. A few weeks after implementation of the process changes, Management Observation, WRPS-MOP-2011-0660, was performed and concluded that: (1) the current procedure, vehicle inspection forms, and stickers were available in the shift office; (2) OE and Base Operations clerks were well versed on roles and responsibilities under the new revision; and (3) all vehicles spot checked had stickers in place. The Management Oversight Program (MOP) recommended that some additional communication to a broader audience relative to specific procedural changes be delivered. Preparation of a corresponding “tailgate”¹ is in progress.

Radiological Controls

WRPS performed a full causal analysis of the radiological controls event described by the Board staff and specifically reviewed the following processes:

1. Radiological work permit (RWP) modification, distribution, and availability;
2. Shift office management of work packages; and
3. Life cycle of work packages from inception to pre-job briefing.

¹ Tailgate is a communication method where WRPS issues lessons learned or expectations to the workforce. The tailgate is used across WRPS at the beginning of each week at the pre-job briefings.

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From a review of the three areas above, four barriers were found to exist that could have prevented a worker from beginning work under the wrong RWP. In addition, this review found that two causal conditions existed:

1. No formal system is in place to communicate to workers outside of the RadCon organization as to what are the current implemented RWPs; and
2. The work process described in TFC-OPS-MAINT-C-01, *Tank Operations Contractor Work Control*, does not contain provisions that will ensure configuration control of work packages, specifically the inclusion of current RWPs.

From this, seven corrective actions to address this issue have been identified and are projected to be completed in FY 2011.

Shift Turnover

WRPS management fully expects the mandatory use of a shift turnover checklist during shift turnover to ensure that the oncoming shift manager is properly prepared to direct operational activities in a safe, compliant, and effective manner. Two actions were taken after consultations with shift managers on how to enhance the turnover process. The following enhancements ensure that turnover sheets are used during each turnover:

1. Each shift manger in the Central Shift Office was individually coached on the importance of using shift turnover checklists and on Senior Management's expectation that a checklist will be used during each and every shift turnover; and
2. The turnover sheet that was in use at the time of the Board's staff visits included provision for the oncoming and off-going shift manager signatures, but did not require an item-by-item checkoff as each item listed on the turnover sheet was discussed. The turnover list was revised to a checklist format with checkoff blocks for each item. This change has helped focus turnover discussions on the important topics. In addition, the shift turnover checklists were also updated to include additional topics to cover during turnover that were suggested by the shift managers.

Periodic monitoring of the turnover process (one of which was documented in WRPS-MOP-2011-0378) has shown that the checklists are being used and covered all the topics. Periodic monitoring will continue to ensure rigor is consistently applied.

Office of River Protection Oversight Summary

Throughout FY 2011, ORP has performed a variety of COO and work control related surveillances as listed below. Eleven of the 18 chapters of COO were evaluated, as well as the core functions/guiding principles of ISMS. In addition to the formal oversight, routine facility representative oversight includes weekly reviews of WRPS logbooks, daily oversight of pre-job briefings and associated work, WRPS COO Council meetings,

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and event investigations. ORP oversight has indicated improvements in the definition of WRPS processes with some improvement in the discipline of operations; however, inconsistent implementation of procedures and work instructions in the field continues to be identified. The FY 2012 ORP Integrated Assessment Plan will include a comprehensive evaluation of the COO program and implementation.

In addition, ORP has also established COO performance criteria that directly impact the award fee for FY 2011. WRPS has tracked a suite of metrics intended to demonstrate ongoing improvements, and ORP will evaluate these data in addition to the ORP oversight data to support the award fee evaluation for the year:

FY 2011 ORP Oversight included:

- Operations Turnover
- Logkeeping
- Control Area Activities
- Independent Verification
- Lockout/Tagout
- Notifications
- Operations Procedures
- Control of Measuring and Test Equipment
- Operations Organization and Administration
- Investigation of Abnormal Events
- On-the-Job Training
- Line Management Responsibility for Safety
- Clear Roles and Responsibilities
- Competence Commensurate with Responsibility
- Balanced Priorities
- Corrective Action Management/Feedback and Continuous Improvement
- Identification of Safety Standards and Requirements
- Work Planning and Control
- Hazard Controls Tailored to Work Performed
- Analyze Hazards
- Develop and Implement Hazard Controls
- Operations Authorization

ORP is developing additional criteria for FY 2012 intended to drive consistent, improved field implementation of both COO and work planning and control.